

PLANETS - POSTER REFERENCE GUIDE

Published in 2000! Has anything changed?

MERCURY

Mariner 10, 1974

Mercury has a barren, cratered surface with dark plains and basins, which make it resemble the Earth's Moon. Most of the craters are due to heavy meteor bombardment 4½ billion years ago, just after Mercury formed. The temperature varies greatly between night and day.

Diameter: 4,900 km
Sun Distance: 0.4 x Earth
Surface temp: -170° to 420° C
Day length: 59 days
Year length: 88 days.
Moons: none

VENUS

Magellan radar probe, 1991

A thick blanket of clouds permanently obscures the surface of Venus. The thick atmosphere allows heat to come in, but not to escape, resulting in a constant high temperature. This radar image reveals the surface of craters, faults, grooved regions, lava flows and mountain ranges.

Diameter: 12,100 km
Sun Distance: 0.7 x Earth
Surface temp: 460° C
Day length: 243 days
Year length: 225 days
Moons: none

EARTH

Apollo 17, 1972

Earth is the only planet known to support life, which began about 3½ billion years ago. The Earth's atmosphere, which protects the surface from UV & cosmic rays, provides the necessary gasses to support life. Water exists in solid, liquid & gaseous forms. Image shows Australia & Antarctica.

Diameter: 12,800 km
Sun distance: 150 million km
Surface temp: -88° to 58° C
Day length: 24 hours
Year length: 365¼ days
Moons: one (The Moon)

MARS

Viking 1, 1980

Mars has a distinctly red colour due to iron oxide in the soil. Like the Earth, Mars has polar caps and seasonal changes due to the tilt of its axis. Channels due to water erosion indicate that the climate was very different in the past. The surface is barren and rock-strewn.

Diameter: 6,800 km
Sun Distance: 1.5 x Earth
Surface temp: -140° to 20° C
Day length: 24½ hours
Year length: 1.9 years
Moons: 2 (Phobos & Deimos)

All figures have been rounded off to aid comprehension.
Images courtesy of NASA and the US Geological Survey.
Design and text by David Widdowson © 2000.

** Is this reference sheet up to date?*

SATURN

Voyager 2, 1981

Saturn's atmosphere is rather bland compared to Jupiter, perhaps because it is colder or has a layer of haze. It bulges at the equator due to its rapid rotation and very low density, actually lower than that of water.

Saturn has the most spectacular rings in the Solar System. The rings are made up of millions of chunks of rock and ice, up to several metres in diameter. It is thought that these icy rocks cannot combine to form a moon because they are too close to Saturn.

Diameter: 121,000 km
Sun distance: 9½ x Earth
Mass: 95 x Earth
Day length: 10½ hours
Year length: 29½ years
Moons: 18 plus rings.

JUPITER

Voyager 2, 1979

Jupiter is the first of the Gas Giants - enormous worlds of hydrogen and helium gas without solid surfaces. Jupiter, more massive than all the other planets combined, has a colourful, vivid atmosphere of bands and ovals. The Great Red Spot is a huge anti-cyclone, or high-pressure system, visible from the Earth for nearly 400 years.

Jupiter's system of moons contains four of the largest in the Solar System: Io, Europa, Ganymede and Callisto. Ranging in size from 3600 to 5200 km across, they were thoroughly explored by the Voyager and Galileo space probes.

Diameter: 143,000 km
Sun Distance: 5.2 x Earth
Mass: 320 x Earth
Day length: 10 hours
Year length: 12 years
Moons: 16 plus minor ring system.

URANUS

Voyager 2, 1986

Uranus is a very bland planet with little atmospheric detail; the blue-green colour is due to methane. Its axis is tilted nearly 90° from the plane of the Solar System, and its moons orbit in this same plane. Uranus has a system of five narrow rings that were discovered in 1977 when the planet passed in front of a star.

Diameter: 51,000 km
Sun distance: 19 x Earth
Mass: 14½ x Earth
Day length: 17 hours
Year length: 84 years
Moons: 20 plus 5 minor rings.

NEPTUNE

Voyager 2, 1989

Voyager found Neptune to have a more interesting atmosphere than Saturn or Uranus. A number of ovals were visible including the "Great Dark Spot". The Spot is similar to the Great Red Spot on Jupiter, but not as long-lived - Hubble Space Telescope images show that it had disappeared by 1995. Neptune has three very dark rings with unusual ring "arcs".

Diameter: 49,500 km
Sun Distance: 30 x Earth
Mass: 17 x Earth
Day length: 16 hours
Year length: 165 years
Moons: 8 plus 3 minor rings.

Dwarf planet PLUTO AND CHARON (moon)

Artist's impression

Pluto has not yet been explored by space probes; this artist's view shows it with its moon Charon, discovered in 1978. Charon is quite large relative to Pluto, so the two can be considered a double planet system. Both are thought to have escaped from Neptune's orbit, and are probably similar to Neptune's moon Triton. Pluto seems to have a slight atmosphere.

Diameters: 2300 & 1200 km
Sun Distance: 40 x Earth
Surface Temperature: -220° C
Day length: 6½ days
Year length: 248 years